



PATENT ABSTRACTS OF JAPAN

(11) Publication number: **08264401 A**(43) Date of publication of application: **11.10.96**

(51) Int. Cl.

H01L 21/02**H01L 21/304****H01L 21/324****H01L 21/66**(21) Application number: **07087593**(22) Date of filing: **20.03.95**(71) Applicant: **TOSHIBA CERAMICS CO LTD**(72) Inventor: **TSUON RII
SHIMOI NORIHIRO
KIRINO YOSHIO**(54) **INCLINED SURFACE SILICON WAFER AND ITS
SURFACE STRUCTURE FORMING METHOD**

(57) Abstract:

PURPOSE: To provide a higher performance semiconductor substrate by a method wherein a surface step structure of an inclined silicon wafer reconstructed by annealing, etc., can be confirmed by an inter-atomic microscope, thus controlling and forming the surface structure.

CONSTITUTION: In a method of forming a surface

structure of an inclined surface silicon wafer, a vertical line of (001) face is inclined at an angle of 0.01° to 0.2° in the (110) direction and a single crystal silicon wafer of face orientation (100) is sliced and washed, thereafter it is annealed at 600 to 1300°C for one min. or more in a super-pure argon atmosphere of a nitrogen gas content of 0.1ppm or less to obtain a crystal face of a step structure containing a step of Sa and Sb. It is preferable that the step structure is confirmed by an inter-atomic microscope.

COPYRIGHT: (C)1996,JPO